Medicare Coverage of Telemedicine Consultations in Rural Areas

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This paper presents a cost estimate for Medicare coverage of consultations using telemedicine techniques. Under present law, consultations are a covered service only if the consulting physician and the patient meet face to face. This is interpreted as preventing Medicare payment where the consultation occurs by remote conference such as a video conference. Medicare does cover some professional services such as laboratory or imaging interpretation when the data are transmitted to the physician.

There are not a complete set of specifications for this proposal. The estimate is based on assumptions about coverage and reimbursement provisions that are important determinants of the cost. In particular, it is assumed that coverage would be restricted to enrollees in rural areas as defined in Title 18 for purposes of delineating rural hospitals. Further, it is assumed that reimbursement would be based on current fee schedules for the consulting physician and one-half the current fee schedule for the initiating physician. No allowance is made for costs of purchasing or renting required hardware or for the cost of maintenance or operation of the equipment. If no funding were provided by other sources, this would be expected to slow the growth of telemedicine facilities. The effective date for coverage is assumed to be October 1, 1998. The estimates shown here are on an incurred basis, reflecting the cost of services rendered in each fiscal year regardless of when the claims are paid.

The estimates presented here follow the general outline of those presented earlier by Actuarial Research Corporation (ARC) and estimates by the Health Care Financing Administration (HCFA) for the teleconsultation demonstration which is currently underway. The general approach used here is to compare the use of consultations and other services by Medicare beneficiaries in rural areas and MSAs and assume that some of the deficit in rural areas is made up by teleconsulting. The data used are from the 1992 Medicare Current Beneficiary Survey (MCBS) Cost and Use file and from a 1% sample of physician supplier claims from 1992. Costs and overall utilization levels are updated to the projection period using current estimates by the Office of the Actuary (OACT). The Physician Supplier Claims file does not include an urban-rural indicator so it was necessary to do a crosswalk by county to the HCFA county code file. This file also does not include a count of beneficiaries without claims. The MCBS file is rather small to study fairly uncommon services such as consultations. On the other hand, it is representative of all enrollees and includes a clear urban-rural indicator. Therefore, the 1992 MCBS was used to provide overall reimbursement per capita in urban and rural areas and the physician supplier file was used to allocate services to primary care, consultations, and other physician supplier services.

Table A summarizes the results of the estimate. This is the central cost estimate presented

here. Low and high estimates are presented in Tables B and C and discussed later. The central estimate is that incurred Medicare payments would increase by $270 million in 1999 and $860 million in 2003.

Table 1 summarizes the reimbursement per enrollee. The enrollment has been restricted to the non-HMO enrollees because the part B data sets and projections used here exclude the expenditures for HMO enrollees. The proportion of these non-HMO enrollees in rural areas is somewhat higher than the proportion of all enrollees in rural areas because most HMO enrollees are in urban areas. The total reimbursement per enrollee is tabulated from the 1992 MCBS cost and use file and calibrated (slightly) to match the OACT estimate of spending for physician and supplier services in fiscal year 1992.

The total expenditures for rural and urban enrollees are allocated to primary care visits and consults using data from the 1992 physician supplier file. We used a 1% sample drawn as a subset of the 5% public use file by selecting all claims for enrollees with (scrambled) identification codes ending in '23'. The proportions were tabulated separately for enrollees in urban and rural counties. Primary care visits were defined to be all visits with HCPCS codes 99211 through 99233. Consults includes HCPCS codes 99241 through 99263.

The purpose of table 1 is to derive the increase in the cost of consultations for rural enrollees that would be provided if rural enrollees used consultations at the same rate (and in the same mix) as non-rural enrollees. This value (2.7% in table 1) is considered the upper limit direct cost of using telemedicine to increase consultations.

Table 1 also develops similar factors for increases in other services such as laboratory tests and imaging or even surgery as one would expect as a result of the consultations. In some cases, these would show up in the Medicare data set as "physician" bills and in some cases as outpatient hospital costs or independent lab costs. The values shown were derived from the 1992 MCBS and calibrated to the OACT estimates for 1992. It is assumed that the induced increases in these services will be proportional to the ratio of consults to primary care visits plus consults. The central assumption here is that consults are twice as likely as primary care visits to create additional use of additional tests. The low assumption is that they produce services at the same rate as primary care visits and the high assumption is that they produce at three times primary care.

Table 2 adjusts the potential increase in consults for other considerations. First, it is assumed that there would be a reduction in the fees associated with the consult since reductions are being proposed in the demonstration. Next it is assumed that rural beneficiaries are slightly less likely to use consultation services simply because they are less likely to get into the medical system at all through primary care visits.

One of the most sensitive and unpredictable elements of the cost estimate is the rate at which rural physicians would make use of telemedical consults if covered. There are

currently a few facilities in place. More convenient and less expensive hardware is being developed to allow consultations from physicians offices rather than from specialized studios. On the other hand, if the consultation fee allowance does not provide for amortizing the cost of hardware and the cost of operation and maintenance use may grow slowly. The central estimate here assumes that one third of the maximum will be in place as soon as Medicare covers the service and that an equal increment of 10% will be added each year. The low assumption is that 20% is ready at the outset and this increases at 10% each year. The high assumption is 50% initially followed by increases of 10% per year.

Table 3 projects that the use of outpatient hospital services and independent lab services resulting from telecommunications will increase from 0.9% in 1999 to 2% in 2003 (central estimates), given an assumed phase in rate of 33% the first year and 73% by 2003. This projection is based on the estimation of increased outpatient hospital and independent lab reimbursement previously calculated in table 1. Also, like the projections in table 2 line 5, it is assumed that there are a lower number of local medical facilities which in turn results in lower exposure to primary care.

Table 4 applies the factors developed above to the OACT projections of Medicare reimbursement amounts for 1999 to 2003. Because the factors apply to the rural enrollees, it is necessary to estimate the fraction of services provided to enrollees in rural areas. This follows quite readily from the MCBS except that the portion of services reported in the physician supplier file and the outpatient hospital file is changing as increasing numbers of enrollees go into HMOs. These HMO payments are classified elsewhere by OACT. Because almost all HMO enrollees are in MSAs the portion of services reported in physician supplier files and outpatient hospital files grows over time.

One possible source of offsetting savings that could result from improved access to consults is a reduction in the need to transfer patients to more sophisticated facilities. Table 5 shows the rate of transfers by hospital size. We use size as a proxy for rural hospital although the match is not one for one. The transfer rates are similar to those tabulated by HCFA and in preparing estimates for the demonstration. We assume in this estimate that a fully phased in telemedical consult could reduce transfers from the rate of small hospital to that of somewhat larger hospitals, ie, from 5.5% to 3.9%. It is further assumed that the savings from each averted transfer would be half of the average payment per discharge and that there are proportional savings in part B physician costs. The savings results from limiting the total payment for the case to the DRG instead of the DRG plus per diem for the transferring hospital. Presumably there are some additional modest savings from reduced need for ambulance transfers to more sophisticated facilities for consultations. These are not explicitly recognized here. The low cost set of assumptions provides for hospital transfers to be reduced to 3.1% of all discharges, the rate of all but the largest hospitals. The high cost assumption is that transfers are only reduced to 5% of discharges.